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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/929,553      | 08/14/2001  | Siu-Wai Wu           | GIC-643             | 9834             |

20028 7590 06/17/2004

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| EXAMINER |
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PHILIPPE, GIMS S

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2613

DATE MAILED: 06/17/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/929,553

Applicant(s)

WU ET AL.

Examiner

Gims S Philippe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 and 12 is/are allowed.
- 6) ☒ Claim(s) 1, 4-6 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 3, 7-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

This is a first office action in response to application no. 09/929,553 filed on august 14<sup>th</sup> 2001 in which claims 1-12 are presented for examination.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Ding (US Patent no. 6,005,626).

Regarding claims 1 and 11, Ding discloses an apparatus and method for reducing noise in a video distribution system comprising applying motion compensated temporal filtering to compressed image data using motion vectors previously generated during compression of the image data (See Ding col. 5, lines 20-25, lines 39-52) wherein the filtering is adapted to reduce noise in the compressed image data, the need for generation of the motion vectors during the filtering step is eliminated (See Ding col. 3, lines 4-9), and adaptive spatial filtering is applied to compressed image data (See Ding col. 6, lines 5-15).

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As per claim 6, Ding discloses an adaptive spatial filtering method comprising an arithmetic manipulation of input and output pixel values within a current frame, a weighted mean value for a group of pixels on the frame, and a filter coefficient (See Ding col. 5, 53-64, and col. 3, lines 48-52).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-5, and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ding (US Patent no. 6005626) in view of Wells et al. (US Patent no. 6,310,915).

As per claim 4, most of the limitations of this claim have been noted in the above rejection of claim 1. It is noted that Ding is silent about providing a look-ahead scheme for a statistical multiplexer rate control as claimed.

However, Wells discloses a look-ahead scheme for a statistical multiplexer rate control (See Wells col. 9, lines 8-47).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Ding's filtering method providing Wells' look ahead scheme for a statistical multiplexer rate control. The motivation for

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performing such a modification in Ding is to be able to vary/control the encoding according to information received (See Well col. 9, lines 23-30).

As per claim 5, most of the limitations of this claim have been noted in the above rejection of claim 1.

It is noted that Ding is silent about selecting transcoding calculating the motion vectors.

Wells discloses transcoding calculating the motion vectors (See Wells col. 13, lines 1-17).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Ding's filtering method by incorporating Wells' step of transcoding calculating the motion vectors. The motivation for performing such a modification in Ding is to produce an affinity for choosing an encoding mode as taught by Wells (See Wells col. 13, lines 17-19).

As per claims 9-10, most of the limitations of this claim have been noted in the above rejection of claim 1.

It is noted that Ding is silent about scene change detection while selecting filtering as specified in the claims.

Wells discloses scene change detection while selecting filtering (See Wells col. 10, lines 14-32).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Ding's filtering by incorporating Wells' scene change detection step. The motivation for performing such modification is to provide an indication of the compressed representation, compression efficiency, encoding standard, selectable encoding parameters, or characteristics of the uncompressed content of the pictures as taught by Wells (See Wells col. 6, lines 25-30).

5. Claims 3, 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 2, and 12 allowed.

7. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach or suggest *"calculating a proportional value of a following anchor frame pixel value and the current frame pixel value to assign to a calculated current frame pixel value, by applying an arithmetic manipulation of their respective amplitude values along with the numerical values of B(backward), (1-B(backward)), and the amplitude of the pixel located within a second frame offset by representative motion vectors, and summing the resulting proportional value of the respective anchor frame pixels with the proportional value of the current frame pixel to obtain a single calculated pixel amplitude value"*.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kim et al. (US Patent no. 5502510) teaches method for temporal filtering of video signals using a motion adaptive spatial filter.

Chu et al. (US Patent no. 5367629) teaches digital video compression system utilizing vector adaptive transform.

Cheung et al. (US Patent no. 6178205) teaches video post filtering with motion-compensated temporal filtering and/or spatial-adaptive filtering.

Sandbank et al. (US Patent no. 4942466) teaches bandwidth compression for television signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S Philippe whose telephone number is (703) 305-1107. The examiner can normally be reached on M-F (9:30-7:00) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S Kelley can be reached on (703) 305-4780. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

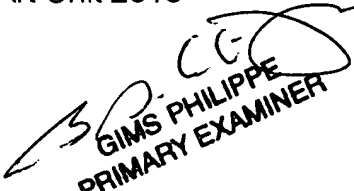
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gims S Philippe  
Primary Examiner  
Art Unit 2613

GSP

June 12, 2004

  
GIMS PHILIPPE  
PRIMARY EXAMINER